NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

PRECISION LAND FORMING

(acre)
CODE 462

DEFINITION

Reshaping the surface of land to planned grades.

PURPOSE

To improve surface drainage, provide more effective use of rainfall, facilitate installation of more workable drainage systems, reduce the incidence of mosquito infestation, control erosion, improve water quality, and prevent damage to land by waterlogging.

CONDITIONS WHERE PRACTICE APPLIES

On all land that is suitable for the purpose required and where precision land forming is practical.

Soils shall be of sufficient depth and of suitable textures so that after precision land forming is completed an adequate root zone remains to permit the planned use of the land and application of proper conservation measures, soil amendments, and fertilizer.

All precision land forming shall be planned as an integral part of an overall system to facilitate the conservation use of soil and water resources.

Scope

This standard applies to all precision land-forming operations for drainage and erosion control as well as other purposes such as moisture conservation, leaching, and improving water quality. All land-forming operations under this standard will be on the basis of a detailed engineering survey and layout. It does not include **Land Smoothing** (466), **Recreation Land Grading and Shaping** (566), and **Irrigation Land Leveling** (464).

DESIGN CRITERIA

Design and installation shall be based on adequate engineering surveys and investigation. If the land is to be formed for more than one purpose, it must be formed to meet the requirements of the most restrictive purpose and crop.

All forming work must be designed within the slop limits required for the proposed use and provide for the removal of excess surface water. If other conservation practices such as **Grassed Waterway** (412), **Surface Drainage, Field Ditch** (607), and **Filter Strip** (393) are needed to accomplish the stated purpose, they shall be included in the plans for improvement.

Slope Requirements. Slope may be uniform in the direction of flow or may increase or decrease.

Reverse grades in the direction of planned water flow shall not be permitted. Short level sections are permissible to meet field conditions. Cross slopes must be designed so that "breakthroughs" from rainfall runoff are held to a minimum.

Slope to Control Erosion Caused by Runoff from Rainfall. Design field grades shall be such that erosion caused by runoff from rainfall can be controlled within the limits permissible for conservation farming. When benching between land-formed plots

exceed 1 ft. (304 mm), a permanent grassed area or border ridge must be left between the plots to reduce the possibility of gully erosion.

Surface Drainage. All precision land-forming systems shall include plans for removing or otherwise providing for control of excess water.

Designs must provide field elevations and field grades that will permit proper functioning of the planned drainage facilities.

Borrow Computations. Excavation and fill material required for or obtained from such structures as ditches, ditch pads, and roadways shall be considered part of the precision land-forming design, and the appropriate yardage shall be included when balancing cuts and fills and determining borrow requirements.

CONSTRUCTION PLANS

Plans for application of drainage land grading shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve the intended purpose. Plans should include a topographic map, grid sheet, cut sheet, or field notes showing planned cuts and fills.